

a second set of conductive leads formed over the surface of [on] said [programmable interconnect] chip in a second direction not parallel to said first direction, at least one conductive lead in at least one of said first and second sets of conductive leads comprising two or more electrically separate segments; and

means for programmably [electrically] interconnecting selected ones of said conductive leads in said first set of conductive leads to one or more of said conductive leads in said second set of conductive leads.

3 ~~22.~~ (Amended) Structure as in Claim ~~20~~¹ wherein said means for programmably [electrically] interconnecting comprises [comprise] a plurality of interconnect structures, each interconnect structure comprising:

a first conductive layer comprising a [portion of the] conductive segment of a conductive lead in said first set of conductive leads;

a second conductive layer comprising a [portion of the] conductive segment of a conductive lead in said second set of conductive leads; and

dielectric formed between said conductive segment in said first set of conductive leads [lead] and said conductive segment in said second set of conductive leads [lead], said dielectric being capable of being made conductive by the application of a selected voltage thereto, thereby to form an electrically conductive path from said conductive segment in said first set of conductive leads to said conductive segment in said second set of conductive leads.

4 ~~23.~~ (Amended) Structure comprising a printed circuit board and a programmable interconnect chip for programmably interconnecting electronic components provided over [formed on] said printed circuit board, said chip comprising:

a substrate;
a first set of conductive leads formed across said substrate in a first direction;
a second set of conductive leads formed across said substrate in a second direction not parallel to said first direction, portions of selected ones of said conductive leads in at least one of said first and second sets of conductive leads being connected to pads provided along said substrate [on the surface of said chip], each pad being adapted for contact to a corresponding contact on said printed circuit board, at least one conductive lead in at least one of said first and second sets of conductive leads comprising two or more electrically separate conductive segments; and

means for programmably interconnecting selected ones of said conductive leads or segments, thereby to enable said electronic components to be programmably interconnected.--

Cancel Claims 29 - 36, 40, 41, 43 - 49, and 53 - 71 without prejudice.

REMARKS

Claims 20, 22, and 23 have been amended to clarify the nature of the subject matter covered in these three claims. Claims 29 - 36, 40, 41, 43 - 49, and 53 - 71 have been canceled for transfer to another U.S. patent application. Accordingly, Claims 20 - 28, 37 - 39, 42, 50 - 52, and 72 - 77 are now pending.

Turning briefly to the nature of the amendments to the claims, the formation of the electronic components connected to the printed circuit board recited in each of independent Claims 20 and 23 is typically substantially complete when the electronic components are connected to the board. In light of this, the claim language reciting a programmable